

Application No.: 10/590,473
Amendment Dated: May 8, 2009
Reply to Office Action of: March 10, 2009

MAT-8888US

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) An electronic component mounting method for mounting the electronic component on a substrate by soldering a connection terminal disposed at both ends of a main body of the electronic component to a pair of electrodes provided on the substrate, comprising an adhesive supplying step of supplying a thermosetting adhesive mixing solder particles to the substrate, a component mounting step of mounting the electronic component on the substrate after the adhesive supplying step, and a heating step of heating the substrate after the component mounting step,

wherein the adhesive supplying step is characterized by supplying the adhesive to the electrode, and also supplying the adhesive to an adhesion reinforcing portion determined between the pair of electrodes on the substrate,

the component mounting step is characterized by fitting the connection terminal to the adhesive supplied on the electrode, and also fitting the main body to the adhesive supplied in the adhesion reinforcing portion causing a portion of a surface of the main body to contact the adhesive, and

the heating step is characterized by forming a solder junction by bonding the connection terminal and electrode by fusing the solder particles in the adhesive supplied to the electrode, and also forming an adhesion reinforced part for fixing the main body to the substrate by heating and curing the adhesive by sealing the inside of the adhesive with solder part by fusing and solidifying of solder particles contained in the adhesive supplied in the adhesion reinforcing portion causing the adhesive to spread and contact a larger portion of the surface of the main body.

2. (Original) The electronic component mounting method of claim 1, wherein the adhesion reinforcing portion is formed on the surface of the substrate, and

partly overlaps with the plural electrodes, and the portion other than the electrodes is set on a concave resist film, and the solder part is held in the concave portion.

3. (Previously Presented) The electronic component mounting method of claim 1, wherein the adhesion reinforcing portion is a position for covering a reinforcing electrode provided between the pair of electrodes on the substrate, and the adhesion reinforced part is formed as the solder particles in the adhesive supplied in the reinforcing electrode are fused to cover the solder part bonded on the reinforcing electrode, and the adhesive is thermally cured to bond the main body to the substrate.

4. (Currently Amended) An electronic component mounting structure for mounting an electronic component having a connection terminal disposed at both ends of a main body on a substrate with a pair of electrodes by a thermosetting adhesive mixing solder particles, the thermosetting adhesive contacting a portion of a surface of the main body, the structure comprising:

a soldering unit of bonding the pair of electrodes and the connection terminal formed by fusing and solidifying of the solder particles in the adhesive supplied in the pair of electrodes, and

an adhesion reinforcing unit for fixing the main body to the substrate by heating and curing of adhesive, by sealing the inside of adhesive with a solder part formed by fusing and solidifying of the solder particles in the adhesive, the adhesion reinforcing unit configured to cause the adhesive to spread and contact a larger portion of the surface of the main body, the adhesive being formed in the adhesion reinforcing portion determined between the pair of electrodes on the substrate.

5. (Previously Presented) The electronic component mounting structure of claim 4, wherein the adhesion reinforcing portion is formed on the surface of the substrate, and partly overlaps with the pair of electrodes, and the portion determined between the pair of electrodes is set on a concave resist film, and the solder part is held in the concave portion.

6. (Previously Presented) The electronic component mounting structure of claim 4, wherein the adhesion reinforcing portion is a position for covering a

reinforcing electrode provided in a portion between the pair of electrodes on the substrate, and the adhesion reinforced part is formed as the solder particles in the adhesive supplied in the reinforcing electrode are fused to cover the solder part bonded on the reinforcing electrode, and the adhesive is thermally cured to bond the main body to the substrate.

7. (Withdrawn) An electronic component mounting method for mounting the electronic component on a substrate by respectively soldering at least two connection terminals of the electronic component to at least two electrodes provided on the substrate, comprising:

forming the at least two electrodes on the substrate, the at least two electrodes having a space therebetween;

applying a continuous layer of resist film which covers at least a portion of each electrode adjacent to the space formed between the at least two electrodes and covers the space between the at least two electrodes so that the continuous layer of resist film extends between the at least two electrodes for forming a concave resist film layer;

an adhesive supplying step of supplying a thermosetting adhesive mixing solder particles to the at least a portion of each of the at least two electrodes and to at least a portion of the concave resist film layer;

a component mounting step of mounting the electronic component on the substrate after the adhesive supplying step; and

a heating step of heating the substrate after the component mounting step, wherein:

the component mounting step comprises fitting the connection terminal to the adhesive supplied on the electrode, and also fitting the electronic component to the adhesive supplied to the concave resist film layer, and

the heating step comprises forming a solder junction by respectively bonding the at least two connection terminals and the at least two electrodes by fusing the

Application No.: 10/590,473
Amendment Dated: May 8, 2009
Reply to Office Action of: March 10, 2009

MAT-8888US

solder particles in the adhesive supplied to the at least two electrodes, and also forming an adhesion reinforced part for fixing the electronic component to the substrate by heating and curing the adhesive by sealing the inside of the adhesive with solder part by fusing and solidifying of solder particles contained in the adhesive supplied to the concave resist film layer.

8. (Withdrawn) The electronic component mounting method of claim 7, wherein the adhesion reinforced part is formed as the solder particles in the adhesive supplied to the concave resist layer are fused to cover the solder part bonded on the concave resist layer, and the adhesive is thermally cured to bond the electronic component to the substrate.